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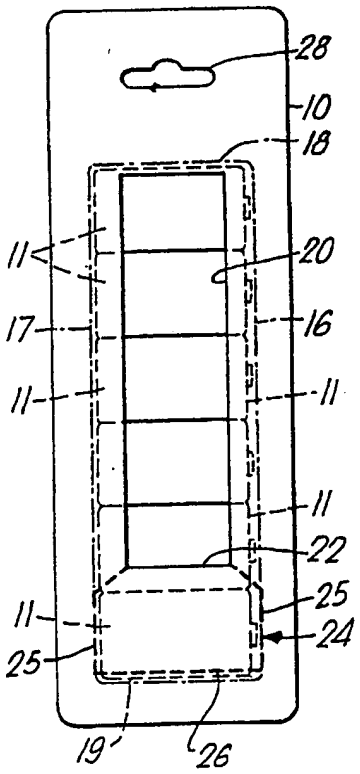
(54) Display and dispensing packaging

(57) A package containing a plurality of similar objects (11), particularly cylindrical batteries, comprises a support sheet (10) against which the objects are held in stacked, side-by-side, relationship by, for example, a transparent blister secured to the sheet and enclosing the objects. The sheet has a window (20) extending over part of the stack whose one edge (22) is provided by a defined portion (24) of the sheet overlying an end region of the stack which is adapted to be displaced out of the plane of the sheet to provide an opening of dimension substantially corresponding to that of one object through which the object at the bottom of the stack can be removed. The package allows the objects to be extracted individually in turn as required in convenient manner.

Fig.1.



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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

Fig.3.

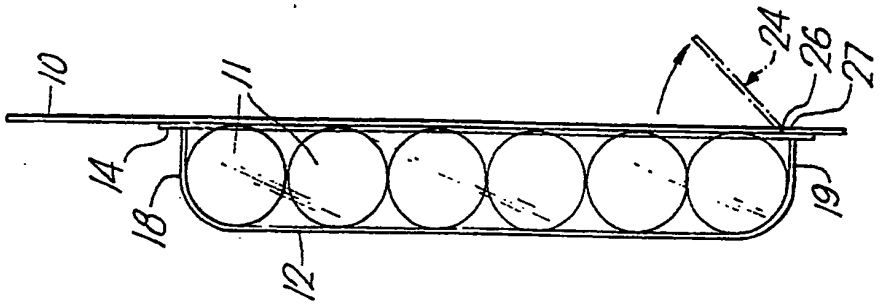


Fig.2.

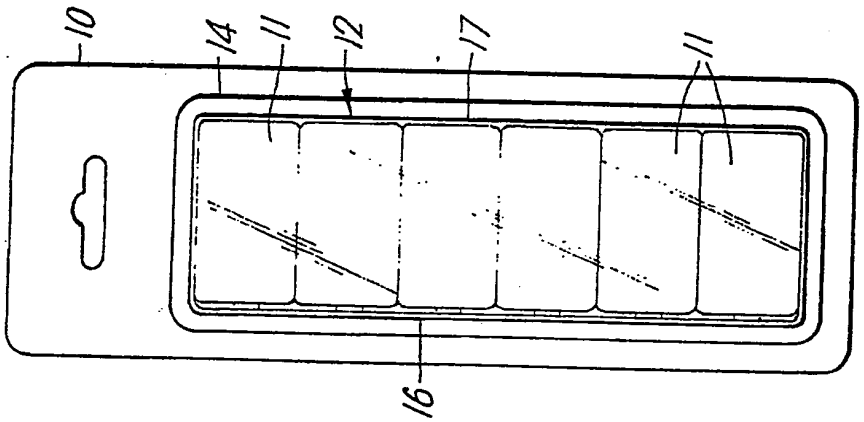
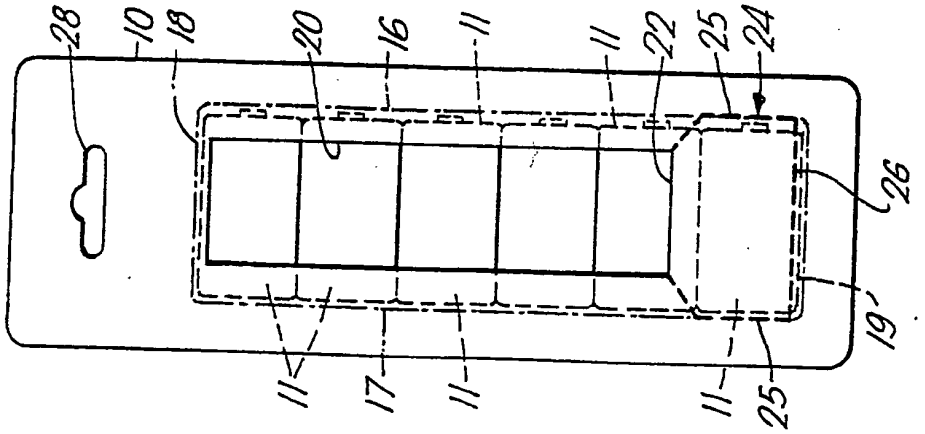


Fig.1.



sheet overlying one end of the stack, which portion is adapted to be displaced out of the plane of the sheet to provide an opening of substantially corresponding dimension to one of said objects through which the object at said one end of the stack can be removed.

In use, the portion of the sheet is displaced out of the plane of the sheet, so that the object, for example a battery, at one end of the stack can be extracted from the package through the opening produced by displacing this portion. The opening is suitably dimensioned to allow only one object at a time to be removed. The package functions, therefore, as a dispenser permitting the objects to be dispensed individually. With the package oriented with the sheet, and hence the stack of objects, at an angle to horizontal and with the opening lowermost, then the removal of the end object results in the remaining objects in the stack dropping down whereby each object in the stack is positioned in turn behind the opening and can be extracted through the opening.

The displaceable portion of the sheet is preferably defined by lines of weakness, for example perforations, formed in the sheet to facilitate partial or complete detachment from the remainder of the sheet. The portion may be completely removable or alternatively may be displaced by hinging, for example, along a score line preferably situated opposite the edge of the aperture. This portion can then be readily displaced by pulling, the aperture enabling a user's fingers to grip the portion at its region adjacent the aperture.

The stack of objects preferably is held against the support sheet and enclosed by a cover attached to the support sheet whose sides, extending in the direction of the stack, are arranged so as to maintain the objects substantially aligned with one another and whose one end, against which the stack of objects bears when in the upright position, is positioned adjacent an edge of the opening provided by the displaceable portion. This cover, which acts as a guide in positioning the lowermost of the remaining

objects in turn behind the opening as each object is dispensed, preferably comprises a plastics blister secured to the support sheet. In an alternative arrangement, the cover may be formed unitarily with the support sheet from a single sheet of plastics or card which is folded to form a box-like structure in which the objects are contained, one wall of which structure is constituted by the support sheet.

Desirably, with the stack of objects in an upright position, a part of the lowermost object in the stack is positioned below the level of the lower edge of the opening defined by the displaceable portion. To this end, the aforementioned end wall of the cover may be positioned with respect to the displaceable portion such that a part of the support sheet adjacent a lower edge of the opening forms a lip. With the stack in an upright position the lowermost object is restrained by this lip. When it is to be removed, the object is merely lifted over the lip and through the opening. In an alternative arrangement, in which the same effect is achieved, the end wall of the cover may be shaped, for example, curved, with the edge of the wall closest to the opening being substantially aligned with the lower edge of the opening and with another part of this wall, and hence a part of the lowermost object in the stack, below the level of the substantially aligned edges of the edge of the wall.

In addition to serving as an entry point in facilitating manipulation of the displaceable portion, the aperture in the support sheet also allows the package contents to be viewed in the case of the support sheet comprising opaque material. To this end the aperture may extend away from the edge of the displaceable portion over a major part of the initial length of the stack so that the objects remaining in the package at any time can be counted. Preferably, the aperture is arranged inwardly of the sides of the cover attached to the sheet extending in the direction of the stack. Thus the aperture extends over a part only of the width of the stack intermediate its sides so that side portions of the stack, i.e. the ends of

DESCRIPTION

DISPLAY AND DISPENSING PACKAGING

This invention relates to display and dispensing packaging and especially a package for the display and dispensing of a plurality of similar objects, particularly, but not exclusively, cylindrical objects and especially batteries.

A known form of package commonly used for cylindrical batteries comprises a backing card against which the batteries are held and a transparent blister secured to the card and covering the batteries. The batteries are extracted by tearing open the part of the backing card behind the blister, the card being provided with perforations to facilitate its opening. This form of package does not readily permit batteries to be extracted individually in turn in a convenient fashion. Whilst the package is satisfactory from a display point of view its design is more suited to the kind of use in which, upon tearing open the backing card, the batteries are all removed, the package then being thrown away. Once opened the package is not inherently suited for containing batteries as they can easily fall out if the package is not stored, or moved carefully.

It is an object of the present invention to provide an improved package suitable for batteries which enables batteries to be dispensed on an individual basis in convenient manner.

It is another object of the present invention to provide an improved package suitable for batteries in which, after the package has been opened to permit the removal of a battery, the remaining batteries can be contained securely until such time as they are required.

According to the present invention there is provided a display and dispensing package containing a plurality of similar objects, such as batteries, comprising a planar support sheet of stiff material, for example of card or plastics, against which the objects are supported in stacked, side by side, relationship, the sheet having an aperture extending over a region of the stack with an edge of the aperture being defined by a portion of the

the objects, remain covered by the support sheet. In the upright position the objects then cannot fall out of the aperture even when the package is part empty unless forcibly twisted through the aperture.

The aperture could, if desired, be covered by a film of plastics secured to the support sheet around the edges of the aperture so as to enclose and protect the objects. The film should be secured in such a manner, for example by use of a suitable adhesive, as to allow it to be peeled away readily from the edge of the displaceable portion.

A package, and in particular a battery package, in accordance with the present invention will now be described, by way of example, with reference to the accompanying drawings in which:-

Figure 1 and 2 are front and rear diagrammatic elevations of the package; and

Figure 3 is a diagrammatic side view of the package.

The package illustrated in the drawings contains six cylindrical "C cell" size batteries. It should be understood, however, that other numbers and different sizes of batteries can be accommodated by appropriately modifying the dimensions of the package and that the particular package illustrated in the drawing is by way of example only.

Referring to the drawings, the package is in the form of a blister card package comprising a front, planar, supporting sheet 10 of rectangular shape and composed of relatively stiff card on whose exposed surface information concerning the packaged batteries can be printed. The sheet 10 may be formed from cardboard or sheet plastics, possibly transparent.

The batteries, 11, are held against the rear surface of the card 10 in stacked, side by side, relationship by means of a generally rectangularly shaped cover 12, comprising a blister bubble of moulded transparent plastics material, which is secured to the rear surface of the card 10 by adhesive at a planar flange 14 extending around the periphery of the cover. The batteries in

the stack, apart from the lowermost, lie directly on top of one another.

The moulded cover 12 has a flat back wall 15 which is spaced from the card 10 by a distance slightly greater than the diameter of the batteries and flat, parallel, side walls 16 and 17 upstanding from the surface of the card whose length is slightly greater than the length of the stack, i.e. the combined diameters of the batteries 11. The end walls of the cover, 18 and 19, are parallel and extend substantially orthogonally to the plane of the card 10. The walls 15 to 19 of the cover 12 in conjunction with the card 10 hold the batteries 11 stacked with their respective ends and longitudinal axes substantially in alignment with one another, as can be seen from Figures 2 and 3.

Referring particularly to Figure 1, the card 10 has a generally rectangular window 20 through which batteries in the stack can be viewed. The cover 12 and window 20 are arranged symmetrically with respect to the card 10 with the major axis of the window and the centre line of the cover coinciding with the centre line of the card. The window 20 extends over a major part of the length of the battery stack. The transverse dimension of the window is less than the width of the stack, i.e. the length of a battery, and its opposing long sides lie inwardly of the sides 16 and 17 respectively of the cover 12 and thus the ends of the batteries.

The lower side of the window 20 is defined by an edge 22 of a portion 24 of the card 10 which is adapted to be displaced out of the plane of the card. The portion 24 is defined by lines of weakness, in this example lines of perforations 25 and a score line 26. The portion 24 consists of a generally rectangular lower part whose sides, determined by the opposed parallel lines of perforations extending from the ends of the score line 26, are substantially in alignment with the sides 16 and 17 respectively of the cover 12 and of a length slightly greater than the diameter of a battery, and an upper part adjacent the edge 22 determined by two slanting lines of perforations which extend

between the ends of the sides and respective corners of the window 20. The window 20 provides a finger entry into the cavity between the cover 12 and card 10, allowing the upper part of the portion adjacent the edge 22 to be gripped. By pulling the edge 22 of the portion 24, the portion is partly separated from the remainder of the card 10 by tearing along the perforations and, as shown in dotted outline in Figure 3, is pivotted out of the plane of the card about the score line 26, which serves as a hinge, to provide an opening in the card 10. This opening overlies the lowermost battery in the stack and its overall height is approximately one and a third times a battery diameter. The dimensions of the part of the opening defined by the lower part of the portion 24 substantially correspond with the dimensions of a battery so that the lowermost battery can readily be removed from the package through the opening. When the lowermost battery is removed, the remaining batteries in the stack drop down against the wall 19 so that the next battery of the stack can be removed. In this way, individual batteries are dispensed one at a time in turn with the number of batteries remaining in the package at any time being visible through the window 20.

In order to prevent the lowermost battery from simply rolling out through the opening when the package is in the upright position shown in Figure 3, the lower edge of the opening, as defined by the score line 26, is positioned at a slightly higher level than the level of the wall 19 so that a lip 27 is formed over which the battery has to be lifted in order to be extracted.

For display purposes the card 10 is provided with a slot 28 so that the package can be hung on a rack. Similarly, after opening, the package can be hung up for storage.

Various modifications are possible. For example, the portion 24 may be completely removable rather than hinged by replacing the score line 26 with perforations. Moreover, the end wall 19 of the cover 12 may be shaped, for example contoured to conform

with the shape of a battery, rather than flat. In this case, the edge of the end wall 19 may meet the card 10 at the same level as the scoreline 26, or the bottom edge of the opening if the portion 24 is completely removed. Being contoured, a part of the end wall 19 against which the lowermost battery bears would then be below the level of the edge, and thus the lower edge of the opening so that the end wall itself defines a lip similar in function to the lip 27 to restrain the lowermost battery.

If desired a transparent film of plastics covering the window 20 may be provided to protect the contents of the package whilst on display. For example a film of plastics slightly larger than the window can be secured by a suitable adhesive at its edge to the inner surface of the card 10 around the periphery of the window. When the edge 22 of the portion 24 is gripped and pulled the film peels off this portion.

The window 20 may be of a shape other than rectangular.

In another embodiment the support card 10 and the cover 12 may be formed from a single blank rather than from separate pieces. Parts of the blank are folded behind a part constituting the card 10 and secured to the surface of the card 10, for example by adhesive, to form a box-like structure having a rear, side and end walls corresponding to the walls 15, 16, 17, 18 and 19, in which the stack of batteries are contained. The end wall 18 can be formed as a tuck-in flap to permit insertion of the batteries after the structure has been assembled or, alternatively, the batteries can be placed in the tray formed by the rear, side and end walls and then the card 10 folded down onto the tray as a kind of lid. Either cardboard or plastics may be used for the blank.

It will be appreciated that the package may be used with objects other than batteries, and not necessarily cylindrical.

From reading the present disclosure, other modifications will be apparent to persons skilled in the art. Such modifications may involve other features which are already known in the field of packaging and which may be used instead of or in

addition to features already described herein. Although claims have been formulated in this application to particular combinations of features, it should be understood that the scope of the disclosure of the present application also includes any novel feature or any novel combination of features disclosed herein either explicitly or implicitly, whether or not it relates to the same invention as presently claimed in any claim and whether or not it mitigates any or all of the same technical problems as does the present invention. The applicants hereby give notice that new claims may be formulated to such features and/or combinations of such features during prosecution of the present application or of any further application derived therefrom.

CLAIM(S)

1. A display and dispensing package containing a plurality of similar objects, comprising a planar support sheet of stiff material against which the objects are supported in stacked, side by side, relationship, the sheet having an aperture extending over a region of the stack with an edge of the aperture being defined by a portion of the sheet overlying one end of the stack, which portion is adapted to be displaced out of the plane of the sheet to provide an opening of substantially corresponding dimension to one of said objects through which the object at said one end of the stack can be removed.

2. A display and dispensing package according to Claim 1, characterised in that, with the stack in an upright position, a part of the lowermost object in the stack is positioned below the level of a lower edge of the opening provided by the displaceable portion.

3. A display and dispensing package according to Claim 1 or Claim 2, characterised in that the stack of objects is held against the support sheet and enclosed by a cover attached to the support sheet whose sides extending in the direction of the stack, are arranged so as to maintain the objects substantially aligned with one another and whose one end is positioned adjacent an edge of the opening defined by the displaceable portion.

4. A display and dispensing package according to Claim 3, characterised in that the cover comprises a plastics blister.

5. A display and dispensing package according to Claim 3 or Claim 4, characterised in that the aperture extends along a part of the length of the stack with its sides being arranged inwardly of the sides of the cover.

6. A display and dispensing package according to any one of the preceding claims, characterised in that the displaceable portion is defined by lines of weakness.

7. A display and dispensing package according to any one of the preceding claims, characterised in that the objects comprise cylindrical batteries.